

## REMARKS

### I. REQUIREMENT FOR NEW ABSTRACT

Applicants have provided a new Abstract on a separate sheet as required by the Examiner.

### II. REQUIREMENT FOR SUBSTITUTE SPECIFICATION

Applicants request that this requirement be held in abeyance until allowable subject matter has been indicated.

### III. REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

In paragraph 6 of the Office action, the Examiner has rejected claims 14-23 as containing subject matter not disclosed in the specification as originally filed.

Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

First, the Examiner asserts that there is not support in the specification for the terminology "repeated exposures to temperatures exceeding 900 °C." The Examiner considers the term "repeated" to indicate what he terms "temperature cycling," which he asserts is not supported in Figure 3. While the Examiner does apparently admit that Tables 7 and 8 disclose cycling of temperatures of 1000 °C and 1100 °C (which the Examiner also apparently concedes are temperatures greater than 900 °C), the Examiner nevertheless selects one random temperature above 900 °C, determines that this temperature is not explicitly disclosed in the specification, and asserts that, as a result, the language used by Applicants is not supported.

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In response, the Examiner will note that support for 900 °C as a lower limit for service temperature is supported throughout the specification. For instance, at pages

3-4, the specification states "There is a demand for physiologically soluble fibres having a service temperature of greater than 815 °C, particularly for such fibres having a service temperature above 900 °C." At page 6, lines 16-25, the specification states:

There is no needled blanket on the market that has a maximum service temperature in the range 900 °C-1200 °C. There are needled blankets having higher maximum service temperature, but these use expensive fibres in comparison with other fibres usable (with the aid of binders) as blanket in the temperature range 900 °C-1200 °C.

Accordingly, there is a demand for needled fibre blanket formed from inexpensive materials, being soluble in saline solutions, and having a maximum service temperature in the range 900 °C-1200 °C.

Thus the specification makes clear that Applicants were seeking fibers having a maximum service temperature of at least 900 °C. At page 18, Table 6, the specification makes abundantly clear that Applicants found such fibers. Samples SW-A2 and SW-B3 were both tested at 900 °C, as well as at temperatures above and below this value. The specification therefore makes clear that the inventors were in possession of fibers having service temperatures above 900 °C, as well as the concept of 900 °C as a lower limit for service temperature, at the time that the application was filed. *See In re Kaslow*, 217 USPQ 1089 (Fed. Cir. 1983). Thus, the 900 °C lower limit for service temperature is not new matter.

With respect to the issue of cycled exposure to temperatures above the service temperature, the specification states at page 18, in the paragraph below Table 6, "To ascertain the applicability of these tests to long term usage a series of cyclic shrinkage tests were undertaken on the materials and the heating schedule used for these cyclic tests is shown in Figure 3." "These tests" refers to the testing leading to the results in

Table 6, i.e., the identification of 900 °C as a minimum for service temperature. So, the specification makes clear that Applicants were seeking to determine the applicability of the 900 °C service temperature to long term usage of the fiber by subjecting the fiber to cyclic exposure to temperatures above the 900 °C level and measuring the shrinkage that resulted. These are the results presented in Tables 7 and 8.

All of this taken together makes very clear that Applicants were in possession, at the time that the application was filed, of the concept of a fiber that would have acceptable shrinkage when exposed repeatedly to temperatures above the service temperature of 900 °C. With respect to the Examiner's concern about repeated exposure to a temperature of 1500 °C, it is not required for adequate written description that every temperature in a disclosed range be exemplified. *See In re Blaser*, 194 USPQ 122 (CCPA 1977). Moreover, it is sufficient to satisfy the claim that a fiber provide the recited shrinkage characteristics at any temperature above the 900 °C threshold, which is in complete agreement with the disclosure in the specification.

Second, the Examiner asserts that the time period of 3.5 hours recited in claim 23 is not supported by the specification. Again, the Examiner's approach is to select arbitrary times not explicitly recited in the claims that are above the recited limit, and assert that, as a result, the entire range is not supported. Again, it is not required that every time greater than 3.5 hours be exemplified in order to provide support for the recited range. *See In re Blaser, supra*. Applicants have pointed out support for 3.5 hours as a lower limit, support for a longer time period (about 5 hours for the 1100 °C

fiber shown in Figure 3, and support for 24 hours. The Examiner's requirement that Applicants show support for every time greater than 3.5 hours is both unreasonable and contrary to case law, as indicated above.

With respect to the Examiner's comments attempting to distinguish between the article to be insulated and the insulating fibers, Applicants are unable to understand the Examiner's concern. Certainly the specification discloses that the fibers described therein are to be used to insulate articles from direct exposure to hot gases. The claims recite insulating the article in applications requiring resistance against repeated exposure to temperatures exceeding 900 °C. If the article is not insulated with the fibers, then it stands to reason that the article will be exposed to these temperatures. If the article is insulated with the fibers according to the claimed method, then the fibers will be exposed to these temperatures. There is thus no issue of lack of written description, because the claim language is completely consistent with the disclosure in the specification.

In paragraph 7 of the Office action, the Examiner essentially repeats the written description rejection made in paragraph 6. Applicants traverse this duplicative rejection for the reasons set forth above, which are incorporated herein by reference.

#### IV. ANTICIPATION AND OBVIOUSNESS REJECTIONS

In paragraph 9, the Examiner has again rejected claims 14-23 under 35 U.S.C. § 102(b) as anticipated by, or under 35 U.S.C. § 103(a) as obvious over, Olds et al. (U.S. Patent No. 5,322,699), Olds et al. (WO 87/05007), and Karppinen et al. (WO

92/09536). Applicants respectfully traverse these rejections and request reconsideration and withdrawal thereof.

Although not agreeing with the propriety of the Examiner's refusal to consider the Declaration of Leonard Olds filed in the parent application, Applicants submit the Declaration with this response. Furthermore, Applicants incorporate by reference herein their remarks presented in prior responses, and explaining that the claims are directed to a method of use, not to the fiber compositions per se.

The Examiner asserts that the Declaration is not persuasive because the claims, in the Examiner's view, fail to set forth an active process step, and instead recite intended uses which allegedly do not further limit the claims. The Examiner admits that the claims do recite disposing the fiber on, in, near, or around the article, and that this is indeed an active process step. However, the Examiner refuses to read further and include the limitation that disposition of the fibers be with respect to an article in need of resistance to repeated exposure to temperatures above 900 °C. In other words, the Examiner draws the line between active process step language and "mere statement of intended use" where the necessary resistance to temperature is quantified. However, the Examiner cites no support for doing so.

If disposing the fiber around an article is an active process step, then language modifying the nature of the article must also be part of that process step. The language "requiring resistance to repeated exposure to temperatures above 900 °C" further limits the articles around which the fibers are disposed. Moreover, there is absolutely no basis in statute or case law for interpreting a method claim as a composition claim, and in the process, selectively ignoring inconvenient aspects of

the process step, so that a rejection can be made. Applicants should be able to enforce their patent claims against an infringer who takes the fibers recited in the specification and disposes them in or around an article destined for exposure to temperatures above 900 °C before the furnace is switched on. This is not unreasonable, since fibers are often marketed by reference to their service temperature, such as “700 °C fiber” or “1200 °C fiber.”

Finally, the Examiner’s comments about the same compositions having mutually exclusive properties and his citation of *In re Spada* are inapposite. Applicants do not assert that the same compositions have mutually exclusive properties. Instead, Applicants have found that a group of fibers having certain compositional limitations provide unexpectedly superior resistance to repeated exposure to temperatures above 900 °C, as indicated by their shrinkage characteristics. Applicants have claimed the method of disposing these fibers in a such a way as to provide insulative properties to articles that are to be exposed to such conditions. To the extent that this group of fibers includes fibers whose compositions have been previously known, Applicants again point out that the fibers were not known for use in the claimed method, and that the claimed method thus represents an invention of selection for those known fibers. That the properties of the selected fibers unexpectedly permit them to be used in this different way is shown by the Declaration of Leonard Olds, which the Examiner has yet to address.

Because the Examiner has not shown the claimed methods to be anticipated by any of the cited references, and because there is not teaching or suggestion to use the fibers disclosed in the cited references in the claimed method, the methods of this

application are not obvious, and an early notification to this effect is earnestly solicited.

Please charge any deficiencies or credit any overpayment in fees to Deposit Order Account No. 11-0855.

Respectfully submitted,



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## MARKED UP COPY OF AMENDMENTS

### ABSTRACT OF THE DISCLOSURE

[Disclosed is use of a vitreous inorganic fibre in the knowledge that it has a composition meeting the criterion that the calculated sum of the free energies of hydration of the compounds that would or could be present at equilibrium (on the basis of knowledge, informed belief or reasonable assumption) is more negative than -10 kcal/100 grams of composition. Such compositions are saline soluble.]

The invention relates to methods of insulating an article in applications requiring resistance against exposure to temperatures exceeding 900°C by disposing on, in, near or around the article thermal insulation which is a refractory insulating material having a maximum service temperature greater than 900°C and comprising vitreous fibers having a composition comprising SiO<sub>2</sub>, CaO, MgO, and optionally Al<sub>2</sub>O<sub>3</sub>.



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